

1916

ACTUAL VS. EXPECTED MORTALITY

(From THE SPECTATOR, New York, August 31, 1916.)

IN presenting the annual tabulation of Actual versus Expected Mortality this year, as compiled from the Gain and Loss Exhibit of the life insurance companies, the number of years covered has been extended to fifteen for a majority of the older companies. While in the case of a number of organizations the rate of mortality was slightly higher for 1915 than in the previous year, still, taken as a whole, the rate was slightly lower than in 1914, being (for ordinary companies) 68.40 per cent as against 68.66 per cent. It will be noted that some of the older companies show notable increases in this respect, although this was to be expected, as for some years their mortality had been very low, while other old companies show quite perceptible decreases. The savings from mortality form an important source from which

participating premium charges are reduced through the annual apportionment of surplus earnings, and consequently this low mortality showing should be highly gratifying both to company managers and policyholders.

The table herewith is made up from the mortality section of the Gain and Loss Exhibit, which considers the following items: On the credit side—expected mortality on insurance, from which is to be deducted the reserves released by death, leaving the expected actual net mortality on insurance at risk. The difference between the expected net mortality and the actual mortality is the saving effected, and this latter item divided by the first gives the percentage of actual to expected mortality.

Fifty-six companies transacting ordinary insurance solely are included in the table herewith, with eight companies writing industrial and ordinary insurance

* Copyright, 1916, by The Spectator Company, New York.

COMPANIES	1901	1902	1903	1904	1905	1906	1907	1908	1909
<i>Etna Life</i>	67.61	68.11	65.61	67.18	65.99	69.01	70.56	64.51	68.94
<i>American Central</i>.....	.....	.....	.....	.....	45.48	28.75	33.59	44.31	44.48
<i>American Life, Iowa</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Bankers of Nebraska</i>.....	.....	.....	.....	.....	29.19	34.20	35.32	30.60	42.11
<i>Bankers Reserve</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Berkshire</i>	81.81	76.09	68.22	60.23	83.63	69.45	69.88	65.21	76.10
<i>Canada</i>	76.70	67.84	72.99	74.48	76.50	65.74	65.44	67.61	59.46
<i>Central Life, Iowa</i>.....	.....	.....	33.49	43.85	31.05	43.23	38.13	51.20	45.20
<i>Columbian National</i>.....	.....	.....	.....	57.31	51.96	43.45	45.84	54.99	68.69
<i>Connecticut General</i>	38.78	55.29	64.16	56.28	64.55	55.78	42.43	50.47	41.41
<i>Connecticut Mutual</i>	74.98	77.30	80.00	89.49	78.17	73.85	77.12	69.98	74.66
<i>Equitable, New York</i>	86.10	85.46	89.50	79.56	80.42	78.43	81.76	89.61	87.58
<i>Equitable of Iowa</i>	74.54	69.14	58.46	68.30	43.13	48.35	48.03	38.47	67.37
<i>Fidelity Mutual</i>	71.74	77.61	68.04	70.30	71.95	72.97	75.32	78.82	89.55
<i>Franklin Life</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Germania</i>	86.68	73.93	72.47	72.34	75.97	75.87	77.52	78.82	80.44
<i>Home, New York</i>	78.94	72.25	69.31	77.88	60.70	71.21	87.15	70.41	68.37
<i>Illinois Life</i>.....	.....	.....	.....	.....	77.30	73.77	77.76	69.05	83.64
<i>Kansas City Life</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>LaFayette Life</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Lincoln National</i>.....	.....	.....	.....	.....	.....	.....	33.33	13.16	26.65
<i>Manhattan</i>	36.42	76.90	75.19	75.15	71.85	79.62	79.34	78.10	93.48
<i>Maryland</i>.....	.....	.....	.....	.....	.....	93.03	47.42	83.40	57.10
<i>Massachusetts Mutual</i>	71.50	59.83	64.29	70.23	81.27	68.00	66.94	69.02	61.73
<i>Meridian Life</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	41.31
<i>Michigan Mutual</i>	97.25	78.93	72.03	79.01	69.14	71.97	94.43	75.97	76.77
<i>Minnesota Mutual</i>.....	.....	82.18	71.82	78.66	73.82	85.89	82.58	80.99	67.94
<i>Missouri State</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Mutual Benefit</i>	74.75	73.44	78.16	79.99	77.80	70.55	66.92	60.07	61.30
<i>Mutual, New York</i>	75.78	69.81	78.55	81.85	81.44	74.99	84.80	77.59	76.51
<i>National of U. S. of A.</i>	57.41	70.00	74.80	78.47	67.96	60.14	60.66	53.13	70.01
<i>National Life</i>	67.35	68.36	56.82	50.79	64.73	66.85	72.85	63.66	61.08
<i>New England</i>	69.58	76.73	74.40	66.95	67.05	64.27	67.20	63.94	56.76
<i>New York</i>	88.10	78.98	72.54	80.59	76.14	72.53	77.69	73.62	76.91
<i>North American, Canada</i>.....	.....	.....	.....	.....	.....	60.57	65.06	42.46	46.04
<i>Northwestern Mutual</i>	63.72	60.60	65.95	66.00	67.00	59.21	58.24	59.13	53.78
<i>Northwestern National</i>.....	.....	.....	.....	.....	.....	.....	83.37	70.10	74.36
<i>Pacific Mutual</i>	75.23	77.08	63.18	55.00	62.94	66.82	67.92	59.10	53.46
<i>Penn Mutual</i>	83.18	74.22	64.46	65.79	71.18	58.33	72.65	66.30	73.84
<i>Philadelphia Life</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Phoenix Mutual</i>	71.61	60.93	76.67	73.02	66.55	63.12	62.14	66.64	64.12
<i>Pittsburgh Life and Trust</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	82.89
<i>Provident Life and Trust</i>	53.17	53.19	62.70	50.17	52.74	52.89	67.15	53.60	54.98
<i>Reliance</i>.....	.....	.....	.....	25.86	76.39	66.63	58.36	65.14	70.30
<i>Reserve Loan</i>.....	.....	.....	.....	.....	17.82	31.71	59.13	56.58	31.07
<i>Royal Union</i>.....	.....	.....	.....	.....	50.17	50.81	55.11	67.17	62.79
<i>Security Life of America</i>.....	.....	.....	.....	.....	36.84	38.39	46.69	42.46	36.52
<i>Security Mutual</i>	92.67	71.66	70.87	84.81	84.61	91.76	76.61	80.24	68.37
<i>State Life</i>	72.90	56.67	63.02	66.33	58.87	65.25	68.36	64.80	51.88
<i>State Mutual, Mass.</i>	59.84	98.48	79.62	60.19	78.76	58.24	71.47	69.25	66.53
<i>Sun Life, Canada</i>.....	.....	.....	.....	.....	.....	82.84	92.95	79.36	67.79
<i>Travelers</i>	79.46	65.60	81.67	84.20	93.42	66.59	66.85	74.80	69.02
<i>Union Central</i>	59.46	55.88	57.28	63.78	54.99	63.66	62.81	62.13	59.43
<i>Union Mutual</i>	80.10	72.35	67.19	70.06	65.89	69.64	71.75	69.35	72.64
<i>United States</i>	74.94	83.17	84.54	100.99	107.96	92.13	89.42	75.20	80.78
<i>U. S. Annuity and Life</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Averages</i>	78.46	75.40	77.08	77.88	76.33	71.22	75.63	73.48	72.16
<i>Industrial Companies.</i>									
<i>Baltimore Life</i>.....	.....	.....	.....	.....	.....	112.54	103.84	106.63	101.89
<i>Colonial Life</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	117.54
<i>John Hancock</i>	92.92	84.61	88.79	89.64	83.11	89.33	86.42	85.54	87.27
<i>Home Life, Delaware</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Metropolitan</i>	113.93	107.44	110.54	113.91	108.07	103.72	101.74	96.59	93.26
<i>Mutual of Baltimore</i>.....	.....	.....	.....	.....	.....	112.79	121.52	121.52	121.88
<i>Prudential</i>	112.92	110.23	117.68	114.99	107.41	104.06	105.84	94.14	90.49
<i>Western and Southern</i>.....	.....	.....	.....	.....	.....	113.25	115.39	111.64	122.41
<i>Averages</i>	110.14	104.49	109.28	110.23	103.46	101.69	101.16	94.62	91.72

ED MORTALITY—1901-1915.

0	1911	1912	1913	1914	1915			AVERAGES			
					Expected	Actual	Ratio	1901 to 1905	1906 to 1910	1911 to 1915	1901 to 1915
46	66.64	65.84	64.11	72.68	4,303,703	3,096,938	71.96	66.90	67.70	68.25	67.62
99	54.93	48.45	48.81	58.88	369,693	237,706	64.32	45.48	38.42	55.08	46.33
99	35.34	41.73	42.56	47.31	118,852	65,704	55.30	.....	40.99	44.45	42.72
07	31.62	31.81	34.79	44.15	429,392	127,644	29.73	29.19	35.80	34.42	33.14
78	37.15	43.52	53.99	38.31	307,580	120,983	39.32	.....	42.78	42.46	42.62
81	62.60	78.15	56.33	92.78	883,359	791,260	89.58	72.80	70.49	75.90	73.06
27	57.78	60.25	55.16	72.40	1,615,174	1,258,560	77.93	73.70	63.10	64.70	67.17
42	23.86	42.55	37.97	32.47	350,653	133,393	38.02	37.45	40.24	34.97	37.55
79	60.11	65.43	52.61	54.74	650,676	410,069	63.02	54.64	51.55	59.18	55.12
87	53.49	53.82	49.41	45.74	832,390	576,145	69.21	55.81	47.79	54.33	52.64
85	74.47	71.18	72.19	62.40	2,805,007	1,978,960	70.51	79.99	74.49	70.15	74.88
80	86.58	80.85	73.75	74.42	16,000,581	12,251,340	76.57	84.21	83.24	78.43	81.96
31	41.93	38.85	38.23	33.80	800,282	264,424	33.04	62.71	49.71	37.17	49.86
88	86.49	86.75	79.91	88.92	1,558,655	1,386,489	88.95	71.93	80.71	86.20	79.61
68	61.26	63.30	60.58	66.62	574,450	374,759	65.24	.....	76.68	63.40	70.04
84	78.37	68.18	66.12	73.58	1,273,994	848,016	66.62	76.26	78.50	70.57	75.12
93	74.49	61.63	62.25	67.04	1,183,217	821,678	69.46	69.82	73.21	66.97	72.00
46	73.64	70.94	68.02	64.80	747,784	429,244	57.41	77.30	74.34	66.96	72.87
87	48.08	40.11	40.09	52.74	562,962	314,009	55.78	.....	53.87	47.36	50.62
37	34.94	43.93	42.21	38.45	89,004	56,388	63.35	.....	36.37	45.58	40.98
43	15.74	47.99	28.12	44.48	221,368	77,131	34.85	.....	22.89	34.24	28.57
20	85.46	79.17	70.97	92.16	750,420	634,793	84.58	67.11	83.75	82.47	77.78
86	45.95	90.01	53.41	82.94	115,348	75,005	65.02	.....	65.96	67.47	66.72
58	58.99	67.20	66.90	59.40	3,814,432	2,625,345	68.83	69.42	65.05	64.26	66.24
83	39.56	60.26	52.08	57.36	155,382	103,722	66.77	.....	36.57	55.20	45.89
52	88.19	70.92	75.05	67.72	566,535	407,527	71.92	79.27	79.73	72.76	77.25
19	79.28	67.61	54.15	62.80	341,084	239,498	70.22	76.62	77.92	66.81	77.12
19	76.60	64.92	55.25	62.91	993,786	573,703	57.73	.....	.....	63.48	63.48
19	63.29	69.14	58.06	62.21	7,630,016	4,301,885	56.37	76.83	64.81	61.81	67.82
46	70.63	72.21	75.40	75.04	17,406,560	12,797,219	73.54	77.09	78.47	73.36	76.31
86	64.48	69.69	73.25	62.20	909,831	582,567	64.03	69.73	61.16	66.73	65.87
76	60.07	67.01	58.02	63.01	2,077,409	1,368,495	65.86	61.61	65.64	62.79	63.35
43	57.02	66.20	56.85	59.02	3,169,849	1,961,329	61.88	70.94	62.92	60.19	64.68
44	77.78	75.99	72.77	72.70	24,550,100	18,025,291	73.42	79.27	103.44	74.53	85.75
35	73.56	62.08	40.62	54.87	473,297	271,518	57.37	.....	55.10	57.78	56.44
56	57.04	59.59	54.48	55.86	14,695,003	8,859,447	60.31	64.65	57.58	57.46	59.90
76	72.72	72.10	77.87	59.88	392,975	206,187	52.47	.....	74.40	67.01	70.71
95	56.84	62.27	66.50	59.76	1,460,862	962,562	65.89	66.69	62.25	62.25	63.73
27	65.65	80.51	71.56	73.12	6,779,505	4,665,351	68.82	71.77	68.48	71.93	70.73
84	68.42	63.86	85.35	62.60	275,233	216,933	78.82	.....	74.84	71.81	73.33
49	62.23	75.67	68.81	61.04	1,666,960	1,186,218	71.20	69.76	64.70	67.79	67.42
08	76.27	92.57	80.85	71.20	1,209,661	973,594	80.52	.....	83.49	80.28	81.89
28	52.33	58.98	50.32	46.20	2,998,175	1,465,082	48.87	54.39	55.78	51.34	53.84
13	57.92	57.18	53.45	59.38	490,965	291,864	59.46	51.13	64.51	57.48	57.71
00	55.52	76.30	66.85	58.83	244,367	148,646	60.84	17.82	43.50	63.67	42.00
26	54.64	60.92	53.95	50.80	338,018	226,019	66.87	50.17	60.03	57.44	55.88
51	41.37	75.23	65.19	77.78	166,052	53,710	32.36	36.84	36.91	58.39	44.05
54	77.10	80.93	73.93	49.58	651,000	530,364	81.46	80.92	79.10	72.60	77.54
43	66.92	69.32	66.88	69.07	855,470	471,510	55.13	63.56	65.14	65.46	64.72
37	59.90	72.76	58.41	66.55	1,909,984	1,270,210	66.51	65.58	65.57	64.83	65.33
81	76.53	77.34	69.45	70.02	2,130,876	1,564,258	73.41	.....	78.99	58.67	68.83
95	70.03	60.33	53.45	53.81	3,529,321	2,313,512	65.54	80.87	67.64	60.63	69.71
26	58.50	61.04	50.68	55.20	4,142,222	2,547,340	61.49	58.28	65.26	57.38	60.31
30	74.55	71.52	67.10	65.10	640,171	383,238	59.84	71.12	71.94	67.62	70.23
62	105.45	89.87	70.75	70.02	309,226	276,248	89.32	90.32	83.63	85.08	86.34
....	32.27	43.71	36.85	39.56	113,353	40,268	35.53	.....	.....	37.58	37.58
46	69.61	70.94	66.09	68.66	143,628,184	98,241,298	68.40	77.23	72.59	68.74	72.85
66	104.47	103.91	104.78	100.05	227,780	229,761	100.88	.....	106.31	102.82	104.57
20	108.04	104.37	101.47	101.05	333,963	317,677	95.12	.....	114.87	102.01	108.44
49	84.83	85.26	78.95	75.86	8,721,637	6,911,851	79.24	87.81	88.41	80.83	85.68
93	78.76	78.49	77.85	73.84	183,866	141,660	77.05	.....	68.93	77.20	73.07
29	91.69	91.12	95.15	89.75	27,470,737	23,901,550	87.02	110.78	98.12	90.95	99.95
00	88.96	88.31	80.75	88.74	148,221	123,715	83.47	.....	113.14	86.05	99.60
66	82.39	79.49	79.15	78.74	26,314,835	20,108,690	76.40	112.65	96.64	79.23	96.17
36	89.45	86.13	97.15	74.04	802,005	639,292	79.70	.....	110.21	85.29	97.75
25	87.03	85.54	86.41	83.22	64,203,044	52,374,196	81.58	107.52	96.29	84.76	96.19

P 40100

368.3
Sp 319i
no. 3

3 0112 105358912

given in a separate table. The tabulation shows the yearly percentages for a period of fifteen years, together with averages for the three five-year periods and for the entire period, 1901 to 1915, inclusive. The figures entering into the compilation for the year 1915 are given in detail, so as to show the method em-

ployed. For the year 1915, eight companies show a mortality rate of less than fifty per cent, while ten others were under sixty per cent. The industrial companies again show a lower ratio than in the preceding year, indicating that their experience was extremely favorable.



THE SPECTATOR COMPANY

CHICAGO OFFICE:
INSURANCE EXCHANGE.

135 WILLIAM STREET,
NEW YORK